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| 10/726,441 | 12/02/2003 | Osamu Kobayashi | GENSP109 | 6769 |

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| EXAMINER | |
|---|---|
| ABAD, FARLEY J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2181 | |

| NOTIFICATION DATE | DELIVERY MODE |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/726,441 | KOBAYASHI, OSAMU | |
| | Examiner | Art Unit | |
| | FARLEY J. ABAD | 2181 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/29/2008, 05/08/2008, 12/18/2007, 09/24/2007, 08/17/2007, 08/28/2006, 05/15/2006, 04/17/2006, 02/10/2006, 12/05/2005, 19/19/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Status of claims*

1. Claims 1-18 are pending in the present application.

### *Priority*

2. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### *Information Disclosure Statement*

3. The information disclosure statement (IDS) submitted on 10/29/2008, 05/08/2008, 12/18/2007, 09/24/2007, 08/17/2007, 04/02/2007, 01/03/2007, 10/25/2006, 10/04/2006, 08/28/2006, 05/15/2006, 04/17/2006, 02/10/2006, 12/05/2005, 09/19/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Claim Objections*

4. Claim 1 recites the limitation "the sink device" in line 5. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing "the sink device" with --the multimedia sink device--.

5. Claim 1 recites the limitation "the video data" in lines 7 and 8. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing "the video data" with --native video data rate--.

6. Claim 1 recites the limitation "the native stream rate" in line 8. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the native stream rate” with --the native video data rate--.

7. Claim 1 recites the limitation "the link character clock" in line 9. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the link character clock” with --the link character clock rate--.

8. Claim 2 recites the limitation "the native stream rate" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the native stream rate” with --the native video data rate--.

9. Claims 3 and 10 recites the limitation "the link unit" in line 1. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the link unit” with --the linking unit--.

10. Claims 4 and 11 recite the limitation "the sink device" in lines 1 and 3, p. 40. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the sink device” with --the multimedia sink device--.

11. Claims 4 and 11 recite the limitation "the source device" in lines 1 and 2, p. 40. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the source device” with --the multimedia source device--.

12. Claims 4 and 11 recites the limitation "the main channel" in line 2, p. 40. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the main channel” with --the unidirectional main link--.

13. Claims 7 and 14 recite the limitation "the source data stream" in line 1. There is insufficient antecedent basis for this limitation in the claim. The examiner recommends replacing “the source data stream” with --the source video data stream--.

***Claim Rejections - 35 USC § 112***

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Claims 2-5, 7, 9-12, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

16. Claims 2 and 9 recite the limitation "the multimedia data packet stream" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

17. Claims 3 and 10 recite the limitation "the multimedia data packets" in line 3. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

18. Claims 4 and 11 recite the limitation "the back channel" in line 3, p. 40. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

19. Claims 5 and 12 recite the limitation "the main link unit" in line 1. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

20. Claims 5 and 12 recite the limitation "the multi media data packet streams" in line 4. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

21. Claims 5 and 12 recite the limitation "said virtual links" in line 4. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

22. Claims 7 and 14 recite the limitation "the respective virtual link" in line 2. There is insufficient antecedent basis for this limitation in the claim. The lack of antecedent basis makes the scope of the claim indeterminate.

***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**24. Claims 1, 3, 4, 8, 10, 11, 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glennon et al (hereinafter Glennon), U.S. Patent No. 5,805,173, and further in view of Buschman et al (hereinafter Buschman), U.S. Patent No. 4,479,142.**

**As per claims 1, 8, and 15,** taking claim 1 as exemplary, Glennon discloses a packet based display interface arranged to couple a multimedia source device [fig. 2, video source 422] to a multimedia sink device [fig. 1, display 114], comprising: a transmitter unit [figs. 1 and 2, col. 10, lines 53-54, video stream decoder 102 and video

input controller 418] coupled to the source device arranged to receive a source video data stream in accordance with a native video data rate [col. 4, lines 45-47, col. 10, lines 1-4, pixel clock rate is the native video data rate]; a receiver unit [fig. 1, display memory 110] coupled to the sink device; and a linking unit [fig. 1, controller 108] coupling the transmitter unit and the receiver unit arranged to transfer the video data in the form of a number of main link characters [col. 15, lines 1-2, transfers the video data in the form of DWORDS] at a link character clock rate [col. 10, lines 4-8, memory clock rate] that is independent of the native stream rate [col. 10, lines 1 and 4-8, two clock domains].

Glennon does not explicitly disclose the video data and the link character clock are asynchronous to each other.

However, Buschman discloses the video data and the link character clock are asynchronous to each other [col. 1, lines 56-65].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon Glennon because it would provide the enhanced capability of transmitting digital signals via standard transmission equipment using standard frame format and rate [col. 2, lines 25-29].

**As per claims 3, 10, and 17,** Glennon discloses a display interface as recited in claim 1, wherein the link unit further comprises: a unidirectional main link [fig. 2, bus 426 and 438] arranged to carry the multimedia data packets from the transmitter unit to the receiver unit; and a bi-directional auxiliary channel [fig. 2, 450-470] arranged to transfer information between the transmitter unit and the receiver unit and vice versa.

**As per claims 4, 11, and 18,** Glennon discloses a display interface as recited in claim 3, wherein the bi-directional auxiliary channel is formed of a uni-directional back channel configured to carry information from the sink device to the source device [fig. 2, 450-460] and a uni-directional forward channel included as part of the main channel for carrying information from the source device to the sink device in concert with the back channel [fig. 2, 426 and 438 carry information in concert with 460].

**25. Claims 2, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glennon, in view of Buschman, and further in view of Klemets et al (hereinafter Klemets), U.S. Patent No. 5,918,002.**

**As per claims 2, 9, and 16,** the modified Glennon does not explicitly disclose a packet based display interface as recited in claim 1, wherein the multimedia data packet stream is one of a number of multimedia data packet streams each having an associated adjustable data stream link rate that is independent of the native stream rate.

However, Klemets discloses wherein the multimedia data packet stream is one of a number of multimedia data packet streams each having an associated adjustable data stream link rate that is independent of the native stream rate [fig. 4, steps 410-430].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the modified Glennon because it would provide the enhanced capability of reliable and efficient transmission of multi-media streams to clients [col. 2, lines 34-37].

**26. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glennon, in view of Buschman, in view of Klemets, and further in view of Woo et al (hereinafter Woo), U.S. Patent No. 5,425,101.**

**As per claim 5,** the modified Glennon does not explicitly disclose a display interface as recited in claim 2, wherein the main link unit further comprises: a number of virtual links each being associated with a particular one of the multi media data packet streams wherein each of said virtual links has an associated virtual link bandwidth and a virtual link rate.

However, Woo discloses wherein the main link unit further comprises: a number of virtual links each being associated with a particular one of the multi media data packet streams wherein each of said virtual links has an associated virtual link bandwidth and a virtual link rate [col. 3, lines 53-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the modified Glennon because it would provide the enhanced capability of providing a wide range of services without providing an excessive number of virtual channels [col. 3, lines 20-24].

**As per claim 6,** the modified Glennon does not explicitly disclose a display interface as recited in claim 5, wherein a main link bandwidth is at least equal to an aggregate of the virtual link bandwidths.

However, Woo discloses a display interface as recited in claim 5, wherein a main link bandwidth is at least equal to an aggregate of the virtual link bandwidths [col. 3, lines 53-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the modified Glennon because it would provide the enhanced capability of providing a wide range of services without providing an excessive number of virtual channels [col. 3, lines 20-24].

**27. Claims 7 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glennon, in view of Buschman, and further in view of Woo.**

**As per claim 7 and 14,** the modified Glennon does not explicitly disclose a display interface as recited in 1, wherein the source data stream is packetized over the respective virtual link based upon a mapping definition.

However, Woo discloses wherein the source data stream is packetized over the respective virtual link based upon a mapping definition [col. 3, lines 53-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the modified Glennon because it would provide the enhanced capability of providing a wide range of services without providing an excessive number of virtual channels [col. 3, lines 20-24].

**As per claim 12,** the modified Glennon does not explicitly disclose a display interface as recited in claim 2, wherein the main link unit further comprises: a number of virtual links each being associated with a particular one of the multi media data packet streams wherein each of said virtual links has an associated virtual link bandwidth and a virtual link rate.

However, Woo discloses wherein the main link unit further comprises: a number of virtual links each being associated with a particular one of the multi media data

packet streams wherein each of said virtual links has an associated virtual link bandwidth and a virtual link rate [col. 3, lines 53-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the modified Glennon because it would provide the enhanced capability of providing a wide range of services without providing an excessive number of virtual channels [col. 3, lines 20-24].

**As per claim 13,** the modified Glennon does not explicitly disclose a display interface as recited in claim 5, wherein a main link bandwidth is at least equal to an aggregate of the virtual link bandwidths.

However, Woo discloses a display interface as recited in claim 5, wherein a main link bandwidth is at least equal to an aggregate of the virtual link bandwidths [col. 3, lines 53-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon the modified Glennon because it would provide the enhanced capability of providing a wide range of services without providing an excessive number of virtual channels [col. 3, lines 20-24].

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FARLEY J. ABAD whose telephone number is (571) 270-3425. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. J. A./
Examiner, Art Unit 2181

/Alford W. Kindred/
Supervisory Patent Examiner, Art Unit 2181